

REMARKS

Claims 1-6, 8-21 and 44 are pending.

I. Written Description Rejection:

The pending claims were rejected under 35 U.S.C. § 112 ¶ 1 for failing to describe in the specification driving the antenna/charging coil with a “first frequency” and driving the booster coil with a “second frequency,” *“wherein the second frequency is different from the first frequency.”* The Examiner believes that the specification does not show possession to one skilled in the art that “different” frequencies can be used, because only the frequencies of 127 kHz and 1.2 MHz are specifically disclosed.

Applicant disagrees. Applicant’s specification obviously informs one skilled in the art that the first frequency used during charging of the microstimulator battery and the second frequency used for zero volt recovery (ZVR) of the microstimulator battery must merely be different for the disclosed technique to work. This technique is described for example in paragraph [0067] of Applicant’s specification:

“In the event . . . that the microstimulator battery voltage should drop to a complete depletion level or ‘zero volt’ mode, the microstimulator circuitry that controls the charging frequency will default to a state that causes the resonant frequency of the microstimulator circuitry and receiver coil to shift to about 1.2 MHz which is the Zero Volt Recovery (ZVR) frequency. Before normal charging of the microstimulator battery can begin, the base station temporarily operates in ZVR mode. In this ZVR mode, the booster coil is driven at the ZVR frequency (1.2 MHz), which resets the battery charging circuitry in the microstimulator to 127 KHz, by activating the front-end switches of the microstimulator setting the microstimulator to a trickle charge mode.”

Applicant's Specification at ¶ [0067]. To summarize, when the battery in the microstimulator becomes depleted, the resonant frequency of the receiver circuitry in the microstimulator is "shifted" from 127 kHz to 1.2 MHz. As a result, the microstimulator would not receive the normal 127 kHz (first frequency) broadcast from the antenna/charging coil, but instead would only receive the 1.2 MHz (second frequency) broadcast from the booster coil. When this 1.2 MHz broadcast from the booster coil is received at the microstimulator, the resonant frequency of the receiver circuitry in the microcontroller is retuned, i.e., "reset," back to 127 kHz, such that the battery can now be recharged at 127 kHz (first frequency) from the charging coil.

One skilled in the art would clearly understand from this disclosure that what is important to the technique is merely that the first and second frequencies respectively broadcast from the antenna/charging coil and the booster coil are *different to match the two resonant frequencies to which the microstimulator's receiver is tuned*.

The Examiner cites to the MPEP¹ to try to make the case that disclosure of specific first and second frequencies—127 kHz and 1.2 MHz— "does not appear to meet the 'representative number of species test'" to entitle Applicant to claim all first and second frequencies that are "different." Applicant disagrees, and respectively submits that the Examiner is misreading this "test":

A "representative number of species" means that the species which are adequately described are representative of the entire genus. Thus, when there is substantial variation within the genus, one must describe a sufficient variety of species to reflect the variation within the genus. *The disclosure of only one species encompassed within a genus*

¹ The Examiner cites to "MPEP 21653(II)(A)(ii)," but this is not a valid MPEP citation and must be a typographical error. However, Applicant has found the MPEP's discussion of the "representative number of species" test, and cites to the appropriate section above.

adequately describes a claim directed to that genus only if the disclosure “indicates that the patentee has invented species sufficient to constitute the gen[us].” “A patentee will not be deemed to have invented species sufficient to constitute the genus by virtue of having disclosed a single species when ... the evidence indicates ordinary artisans *could not predict the operability in the invention of any species other than the one disclosed.*” On the other hand, *there may be situations where one species adequately supports a genus.* See, e.g., *Rasmussen*, 650 F.2d at 1214, 211 USPQ at 326-27 (disclosure of a single method of adheringly applying one layer to another was sufficient to support a generic claim to “adheringly applying” because one skilled in the art reading the specification would understand that it is *unimportant* how the layers are adhered, so long as they are adhered); . . . *In re Smythe*, 480 F.2d 1376, 1383, 178 USPQ 279, 285 (CCPA 1973) (the phrase “air or other gas which is inert to the liquid” was sufficient to support a claim to “inert fluid media” because the *description of the properties and functions* of the air or other gas segmentizing medium would suggest to a person skilled in the art that appellant’s invention includes the use of “inert fluid” broadly.)

MPEP 2163 (II)(A)(3)(a)(ii) (some citations omitted).

This is not an unpredictable art, see *id.*, and one skilled in the art would well understand that the disclosed technique merely relies on matching two different broadcast frequencies to the two different frequencies tuned at the microstimulator that define the normal and ZVR charging modes. In this regard, one skilled understands that nothing is important to the disclosed example of the use of 127 kHz and 1.2 MHz frequencies: any different frequencies would work, because any two frequencies are sufficient to differentiate between the ZVR and normal charging modes at the microstimulator. Thus, describing the properties and functions of a 127 kHz/1.2 MHz system provides possession of the concept of the use of any two different frequencies. Moreover, as this art is not unpredictable, one skilled in the art would certainly understand how to tune the receiver to any different frequencies he may like. For example, changing the inductance or capacitance in an L-C receiver circuit is an age old tuning technique, a point which Examiner would no doubt take official notice.

In short, the specification indicates to one skilled in the art—despite only disclosing two particular frequencies 127 kHz and 1.2 MHz—possession of the use of any different frequencies in the disclosed ZVR charging technique. To conclude differently reads Applicant's specification too narrowly, and gives one skilled in this predictable art too little credit in how Applicant's specification would be interpreted.

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Based on the above remarks, Applicant respectfully submits that pending claims 1-6, 8-21 and 44 are allowable, and requests that a Notice of Allowance issue for these claims

Respectfully submitted,

/ Terril Lewis/

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